

POINTS TO CONSIDER IN SELECTION OF BROODERS

Size of Operation and Available Buildings Determining Factors in Choice of Most Suitable Coops.

STOVES GIVE SATISFACTION

Will Handle Largest Broods With Hovers Similar in Method of Least Amount of Labor—Most Operation.

BY J. RAYMOND KESSLER, Practical Poultryman.

The great advantage of artificial brooding is the selection of chicks that can be cared for with a minimum of labor, and the assurance that the artificial mother can be depended upon. The operator has done his or her part. The smallest type of brooder will take care of fifty chicks, which is the equal of four or five hens, and with little more work than the proper care of one hen and her flock would require. Then, when we come to large brooder stoves, built with capacities of from three hundred to fifteen hundred chicks in a flock, one cannot help but admit that artificial methods are great labor savers.

The first step in considering artificial brooding is the selection of the type of brooder best suited to one's needs. This is dependent upon the number of chicks it is desired to raise, and the available buildings. For the person desiring to raise a few small flocks, aggregating perhaps a hundred or two in a year, the ready-built outdoor brooder with capacities of from fifty to one hundred chicks are about the best. These brooders usually consist of a small coop of two compartments and a lamp-heated hover—one compartment for the hover, and the other a cold exercise room, each of the compartments being about three feet square. This type of brooder is known as the outdoor colony brooder, and is one of the best types for the inexperienced beginner.

Small Adaptable Hovers.

Where suitable buildings are had it is less expensive to purchase the small universal or adaptable hovers, consisting of a hover and lamp heater. The lamp supplying the heat for the type of hover is differently arranged in various makes. Some have the lamp in the center of the hover and others on the side, some are entirely portable, while others require the fastening of the lamp outside of the building in a box. Practically all adaptable hovers of standard makes can be depended upon to give satisfactory results. The little differences in construction peculiar to the various makes should not confuse the beginner, for he will soon learn that they are pretty much a matter of selecting the particular type that seems best suited to the available buildings.

For the adaptable hover it is necessary to have a small colony coop, preferably not smaller than four by five feet, or a house that can be divided into pens of not less than three by six feet in size. Where the type of hover necessitates an outside lamp box, a hole must be cut in the wall to admit the heat pipes, or in the case of a long house with a number of such hovers, there must be provided a suken passage, since the lamp box is set from four to six inches lower than the floor of the hovers. The lamp boxes may be placed outside of the house, even in a long house containing a number of hovers.

The merits of different types of hovers are a matter of individual taste. Some breeders prefer the type having an outside lamp box, because the lamps are attended without disturbing the chicks, and because any oil fumes are kept out of the house. Others, like the entirely portable type, with the lamp made a part of the hover, because it can be placed anywhere in a house without the need of cutting holes for a lamp box, also because it can be easily moved for cleaning floor under the hover. There is one advantage, however, to the portable hover, and that is the chimney from the lamp which throws the fumes into the house. This is likely to bring about unhealthy conditions, and most poultrymen find it necessary to line the fumes out of the house the same as is done in the box lamp type.

Where a large number of individual hovers are required it is far more economical to install one of the continuous systems of hovers heated by hot water. These can be obtained in units of from ten hovers up. Of course, in order to use one hover of such a system it is necessary to operate the entire system, but each individual hover may be regulated to develop a different temperature so that chicks of different ages may be brooded in the same plant. The greatest advantage of the hot-water system is the fact that one fire does for a dozen or more hovers, thus reducing both labor and fuel.

The Heatless Hover. Heatless brooders are of somewhat doubtful value in brooding chicks; in fact, some term this method of brooding a fad. The method has done much to introduce fresh air as a necessity of artificial brooding, and to bring poultrymen in general to a fuller realization of the amount of heat a flock of chicks will develop themselves. Adaptations of the principal of heatless brooding are much used by poultrymen in hardening the chicks after they are weaned from the heat, but the method in its entirety is little used today.

Heatless brooders have been used with success, but they require an ex-

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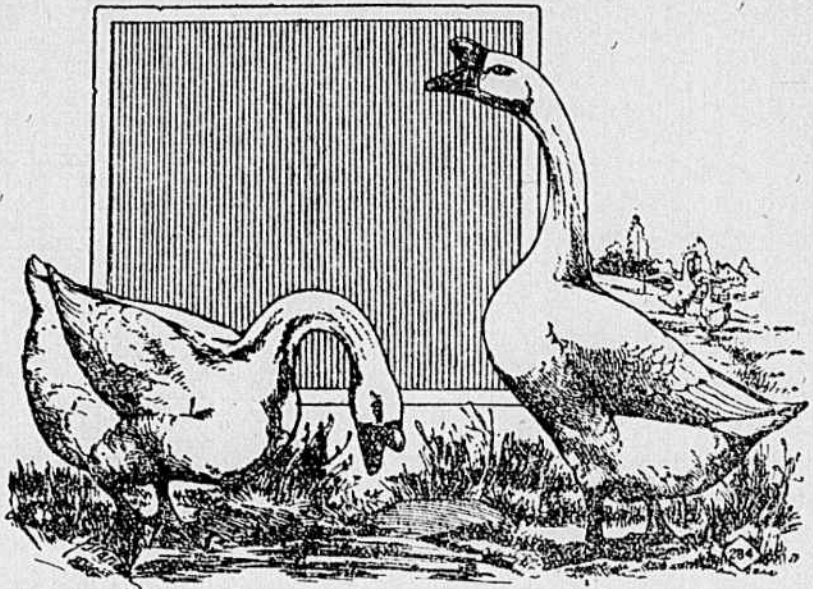
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The American Standard of Perfection recognizes two varieties of China geese, brown and white. They are favorites with farmers, who cross them with Toulouse, Emden and African varieties in the production of "green" geese for holiday trade.

White China geese originated from "ports" or albinos of the brown variety. They should be pure white in plumage, with orange-yellow bill and legs. The knob on the fore part of the head is yellow, too. The neck is long and swanlike.

The female will lay from sixty to seventy eggs. She is a good mother,

and will usually rear all of her goslings. In raising geese, however, it is advisable to confine the geese until the goslings are a few weeks old. Geese are great foragers, and the old geese will tire and wear out her brood unless they are allowed to first gain size and strength before being turned out to pasture. Yet good pasture is as necessary to geese raising as it is for dairy cows.

Any building or shed that will keep the bedding dry is a first-rate shelter for geese, and beyond a few weeks' care of the goslings after they are hatched they require little attention.

used, a like number of lamps to be filled and cleaned. It would also require the performance of all feeding operations a like number of times.

One large brooder stove will care for all these chicks in one flock with less than half the labor. Three or four feet troughs and a like number of water fountains will serve the flock, and in feeding it is just as easy to feed a large flock as a small one. In cleaning there is also a great saving, as with the large stove there are only the floors of two rooms to be swept, while the other method requires the cleaning of numerous hovers and exercise pens. Thus it can be understood how great a saving this method of brooding has effected. In fact, it is one of the greatest labor-saving devices ever offered to the poultryman, and the results of this brooding in large flocks have been remarkably good.

Plow Works to Be Enlarged. STAUNTON, VA., February 2.—The leader Plow Works, which already operates a big plant here have completed plans for considerable enlargement of the plant. It is the purpose of the company to enlarge the capacity to 40,000 or 50,000 plows per annum.

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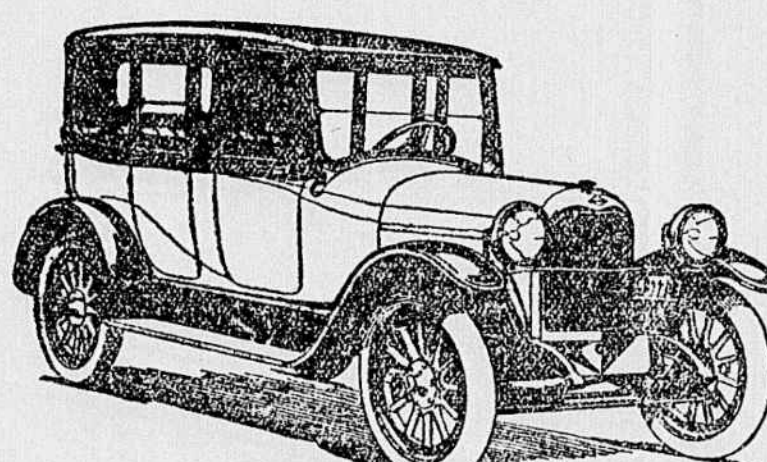
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THE CHURCHES AND TO-DAY'S SERVICES

(Continued From Fifth Page.)
Standard-Bearers, and at 8 o'clock on "The World and Its God."

PRESBYTERIAN.

Grace Covenant—At 11 o'clock this morning, Rev. Eugene C. Caldwell, of Union Seminary, will preach. At night this congregation is expected to attend the union services at Holy Trinity Episcopal Church conducted by Rev. W. H. Thompson, D. D.

First—Usual morning service, with sermon by the pastor, Rev. F. T. McFadden, D. D. Union services at night at Holy Trinity Episcopal Church.

Second—Usual 11 o'clock service, with preaching by the pastor, Rev. Russell Cecil. Union service at night at this church, at which Rev. T. A. Simot, D. D., will preach.

BAPTIST.

Fulton—Usual services to-day, with sermons by the pastor, Rev. W. Thorburn Clarke.

Grace Street—Rev. Henry A. Griese-mer will preach at 11 o'clock and at 8 o'clock.

There will be the usual services to-day, with sermons by the pastor, Rev. J. B. Hutson, D. D.

Second—The service flag of this church will be presented at the morning service, and "The Present Crisis" will be the subject of the morning sermon, by the pastor, Rev. T. Claggett Skinner, D. D. Special musical program.

Barton Heights—Preaching at 11 o'clock by H. D. Garland. Union services at 8 o'clock in Presbyterian Church. Union prayer service Wednesday night.

Northside—Rev. E. E. Tyson, of Atlantic City, will preach this morning and again to-night.

Ginter Park—Rev. William Hodley, the pastor, will preach at both the regular services in this church to-day. "Heaven" and "The Invisible" will be the subjects of the two sermons.

Calvary—The pastor, Rev. Carter Ashton Jenkins, will preach at the regular morning and evening services.

First—Preaching at 11 o'clock and at 8 by the pastor, Rev. George W. McDaniel, D. D.

Leigh Street—Usual services, with sermons by the pastor, Rev. John J. Wicker, D. D.

MISCELLANEOUS.

Unitarian—Service at 11 o'clock, with

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preaching by the pastor, Rev. Frank Pratt. Subject of sermon, "The Brotherhood of Man." Mr. Pratt will preach at Highland Springs at 4 o'clock.

Life and Advent Church—Preaching at 11 o'clock and 8 by Elder E. F. White.

Christian Science—The regular services will be held at 11 o'clock this morning. The subject will be "Love." Christadelphian—There will be services in Colombo Hall to-day at 11 o'clock and at 8 o'clock to-night.

International Bible Students—Usual services at Colombo Hall, 2047 West Broad Street, at 11 o'clock.

Central Y. M. C. A.—Address at 3:30 by Howard C. Gilmer, representative in the General Assembly from Pulaski. Subject of address, "Over the Top." A lobby song service will be held at the conclusion of the men's meeting. Soldiers, sailors, marines and citizens cordially invited. General Secretary McKee will address the boys at 2:30 in the boys' lobby, on "Two Birds."

First English Evangelical Lutheran—The pastor, Rev. J. J. Scherer, Jr., will preach at 11 o'clock. At 8 o'clock the congregation will worship with the other congregations of the West End at Westminster Presbyterian Church, Davis and Park Avenues.

CHURCH DEMONSTRATION

Activities of All-Saints' Congregation to Be Visualized on Friday Night.

The annual demonstration of the activities of All-Saints' Church will take place Friday night in the parish-house, on Madison Street. Every organization of the church will have its headquarters attractively arranged, and some will be on hand at each place to give information about the work of that organization. The program will consist of music, under the direction of Ernest H. Coby; a talk by the rector, Rev. J. Y. Downman; a short missionary play; a Boy Scout demonstration, and the raising of three flags—the United States flag, the Christian flag and the service flag, bearing fifty stars. This will afterward hang in the front of the church. A similar meeting was held at All-Saints last year, and proved a great success in visualizing the work of the church, and in bringing the working bodies together as a unit, and showing their relation to each other and to the church at large.

MISSIONARY RALLY

At the regular meeting of the Methodist ministers of the city on last Monday it was decided that to-morrow a missionary rally for the Richmond district will be held. Rev. Thomas N. Fotts, D. D., missionary secretary of the Virginia Conference, will be present. The presiding elder, Rev. R. H. Fotts, is making every effort to have all of the ministers and missionary lay leaders of the district present. The conference will begin at 11 o'clock, and will be held in the blue room of the Central Y. M. C. A. A dinner will be served at 1 o'clock, after which the discussion will be continued. Those who intend to attend the meeting should notify the presiding elder, or Rev. Samuell L. Dumville, pastor of the Decatur Street Church, in order that the entertainment committee may have time in which to prepare for the dinner. Two recent invitations of Secretary McKee, would be glad to provide quarters in the Y. M. C. A. Building for all the denominational weekly meetings, was unanimously accepted, with thanks, by the Methodists, and hereafter their weekly meetings will be held in the blue room, third floor, Central Y. M. C. A.

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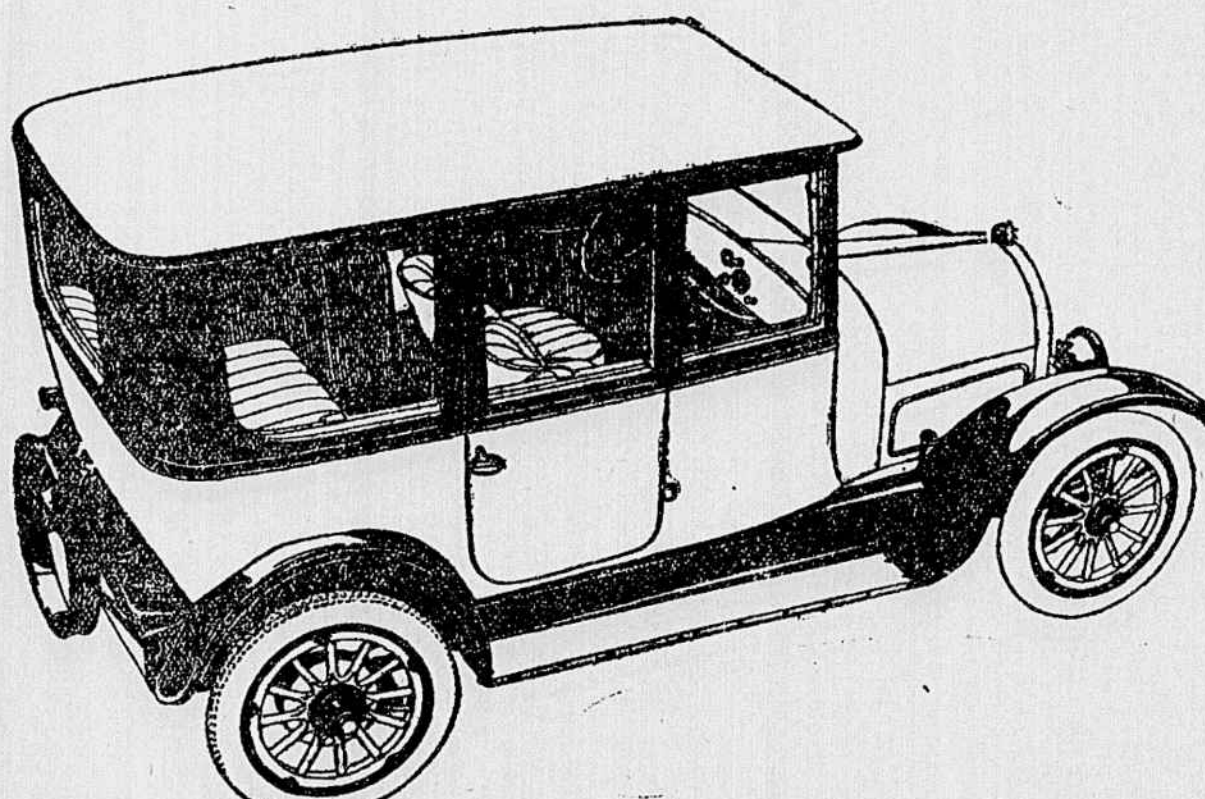
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